THE VETERINARY RECORD

A Weekly Journal for the Profession.

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

No. 1347. MAY 2, 1914. VOL. XXVI.

FELINE DISEASES.

Mr. Buxton's short paper upon "Cat Influenza," with its discussion by the Southern Counties Society which appeared last week, illustrate how much we have still to learn concerning many of the commonest cases in practice. The catarrhal diseases of the cat are comparatively a minor subject, but their importance to the practitioner is increasing every year, and no group of diseases is more obscure. Some bacteriological work has been done upon them—that of Mr. Buxton seems likely to lead to good results—but much more remains to be done. To the clinician, these affections are a complete mystery. How many specific catarrhal diseases attack cats? Are they distinct diseases, or variations of one disease under the influence of secondary infections? How can they be differentiated clinically? Which of them, if any, represents distemper?—to which should the term "influenza" be applied, or is that term really applicable at all?—and are any of them sufficiently transmissible to man to be of importance on that score? No one can answer one of these questions with certainty—those who attempt answers are merely offering individual opinions.

The near future will probably see an increase in the study of feline diseases in the laboratory. Clinical experience ought to supplement this, but the subject is one of those in which clinical experience loses half its value if it is not systematically noted.

There are men who see these cases daily, and their noted experience might be invaluable. But, without notes, much of that experience would be too hazily remembered to be reliable. Systematic note-taking is tiresome work; but, considering how important feline practice is becoming and how little we know of many of its problems, it is well worth doing.

Lastly, there is still room for further enquiry as to whether the feline catarrhs are transmissible to man. The public are generally inclined to believe in such transmissibility. Many veterinary surgeons flatly deny it; and some who do so are men of great experience. Still, there is some evidence in support of at least a certain degree of transmissibility; and all such evidence requires careful sifting. Much of it is vague, and some probably originates from combinations of coincidence and prejudice: but there seems to be enough to justify us in regarding the question of transmissibility as not yet definitely settled.

SUCCESSFUL TREATMENT OF PROTRACTED PNEUMONIA IN THE HORSE BY IODIPIN.

Many reports have appeared of the favourable effect which subcutaneous injections of iodipin exercise upon feverish toxic infections. The drug is said to cause hyper-leucocytosis, prompt fall of the temperature, and improvement in the general condition. These reports have induced Johannes Schaaf, of Berlin, to try the effect of a 25 per cent. solution of iodipin (which is prepared for veterinary use at a moderate price) in equine pneumonia.

Schaaf's first case terminated fatally, but its course while under treatment with iodipin strengthened his confidence in the drug. He had been treating the horse by other methods for eight days without success. The animal had taken no food throughout the period, and constantly grew weaker. Schaaf injected 50 grammes (about 1-2/3 oz.) of iodipin subcutaneously in the neck. The next day the horse showed an appetite, and took hay and carrots briskly. Schaaf injected another 50 grammes of iodipin, and a keener appetite developed on the following day. The condition then suddenly became worse, and the horse died. Post-mortem examination revealed the existence of a gangrenous pneumonia, against which iodipin would naturally be ineffectual. Nevertheless, Schaaf arrived at the conviction that, had iodipin been used earlier, a gangrenous process of the pulmonary tissue would not have arisen.

In the next case, Schaaf awaited the day of the crisis. As no improvement appeared on the sixth day, he began on the seventh day with an injection of 50 grammes of iodipin. On the same day the animal began to eat again, and the temperature went down. On the following day Schaaf repeated the injection. The appetite remained continuous, and Schaaf gave further injections of the same dose on the third and fifth days. The condition improved daily, the horse regained his strength, the breathing became calmer, and gradually a complete recovery took place.

With the same dosage, Schaaf has since repeatedly successfully treated horses in which he clinically diagnosed an atypical form of pneumonia. He remarks that the fact that the animal recommences to eat after the iodipin injections impresses the owner, and induces him to disregard the relatively high price of the drug.

The injections of iodipin should be begun early, as soon as a typical crisis fails to appear.

Of course, in addition to using iodipin, it is absolutely necessary to strengthen the action of the heart. Schaaf does this by means of daily alternative doses of camphor and digalen. The latter drug

is especially serviceable, as it is given subcutaneously. Very soon after the injection of 10 c.c. of digalen, an improvement in the heart's action, a rise in the blood pressure, and a slowing of the pulse can be observed. But Schaaf ascribes the chief effect to the iodipin, as he has had no losses since using it.

In most cases, in the course of the illness, Schaaf njects 200 grammes of iodipin in doses of 50 grammes each. He warms the preparation well before administration, and employs a wide canula for the injection.

He has never observed abscesses after the injections, but a painful swelling often appears. This, however, soon subsides. After his hitherto successful experience, he warmly commends iodipin for pneumonias running a protracted course.—*Münch. Tier. Woch.*

An Acute Sero-fibrinous Polyarthritis in Swine, caused by Transport.

Albert Stützle, a veterinary practitioner of Geislingen-Steige, Würtemberg, has dealt with this subject in an inaugural dissertation at Freiburg. Many young lean swine were being transported from North Germany into South Germany to be raised and fattened in large feeding establishments in the latter country. A number of these animals which travelled by railway, and had to make a journey lasting from four to five days, regularly showed a peculiar affection of the joints. This occurred so constantly that an unknown contagious disease was erroneously presupposed to exist. A careful investigation took place, in which Mayer, an official veterinarian, bore an especially prominent part, and by numerous post-mortem examinations the condition was proved to be "an aseptic, specific, independent disease of the joints." K. Glässer, in his book on the diseases of swine, states that similar cases of illness have occurred in Hanover, Westphalia, and the Principality of Lippe-Detmold.

According to the results of the investigation, this sero-fibrinous polyarthritis of swine must be attributed to injurious traumatic influences during the long journey, in which long fasting and unsatisfactory accommodation exercise a predisposing effect. The condition is of importance in connection with the differential diagnosis of the scheduled contagious diseases of swine.—(*Berliner Tier. Woch.*)

Traumatism of the Spleen from a Foreign Body.

Dora, of Ebermannstadt, records the case of a cow which for some days had been eating badly, and could only be moved with difficulty. Nothing pathological could be demonstrated in the thoracic organs. The movements of the rumen were sluggish, and the region of the ensiform cartilage was sensitive to pressure. Some days later the sensitiveness had extended to the thorax and over the ribs, and every movement seemed to cause the animal pain. The presence of a foreign body was suspected, and the cow was slaughtered.

Post-mortem, the foreign body was found—a wire about eight inches long, which had penetrated from the reticulum into the spleen. The spleen itself was vastly enlarged, and its capsule greatly thickened. A portion of the organ was transformed into an abscess, which contained foul-smelling pus.—*Munchener Tier. Woch.*

Tubercle Bacilli in the Gall of Animals.

The question whether tuberculous individuals discharge tubercle bacilli by means of their gall has hitherto been little studied. Not long ago it was brought into prominence by some researches carried out by Joest and Emshoff. More recently C. Titze and E. Jahn have investigated the subject afresh, and they have published (*Arbeiten aus dem Kaiserl. Gesundheitsamte*) their results.

They agree with the view of Joest and Emshoff that infection of the blood stream has no significance in connection with the excretion of tubercle bacilli in the gall. It is possible that an invasion of the veins of the portal system may influence the excretion of tubercle bacilli in gall. But the essential cause of the latter event is the existence of tuberculous lesions in the liver. In all the cases in which Titze and Jahn found tubercle bacilli in the gall, with one exception, tuberculous disease was present in the liver or in the portal lymphatic glands.

The tubercle bacilli discharged from the liver may, without great diminution of their virulence, pass into the intestine and from thence into the outside world. Hepatic tuberculosis, therefore, in many cases represents an "open" form of the disease.—(*Berliner Tier. Woch.*)

(An abstract of Joest and Emshoff's work appeared in *The Veterinary Record* of June 29th, 1912, page 819.—*Transl.*)

Prolapse of the Small Intestine through a Rupture of the Rectum after Parturition.

Barthe records (*Revue Vêt. de Toulouse*) the following case. A powerful Anglo-Arabian mare, after the normal birth of a well-developed foal, showed some agitation, followed by colic, which constantly increased in violence.

Upon his arrival Barthe found the mare lying on the ground. Under the tail and between and behind the hind limbs, coils of intestine were lying upon the straw. These had already been trodden, so that the contents had escaped.

Barthe at once saw that the prolapse was proceeding from the rectum. Rectal exploration revealed a longitudinal rent about six inches in length in the upper wall of the rectum, through which the small intestine had worked out in consequence of the action of the labour pains.

Post-mortem, the uterus was found to be intact. The rectum was filled with balls of fæces, firmly pressed together. It may be assumed, therefore, that the upper wall of the rectum, lying between the sacrum and the mass of fæces, could not withstand the enormous pressure put upon it at the moment of parturition, and especially during the passage of the bony prominences of the foal. After the rent had arisen, during the expulsion of the

placenta, the contractions of the abdominal muscles had pushed the small intestine towards the pelvis and through the laceration.

The administration of a clyster shortly before parturition would certainly have prevented this accident.—(*Berliner Tier. Woch.*)

Prolapse of the Rectum in Horses.

Heisener, of Greifenburg, has recently treated two cases of prolapse of the rectum in horse. In both cases the rectum was pressed out to about the size of a fist, and the rectal mucous membrane was very swollen and œdematous.

The prolapsed rectum was washed and cleansed with a solution of alum, and returned to its place. A piece of cloth soaked in alum solution, was then placed in the rectum, and a prolapse bandage applied. Both cloth and bandage were removed every two hours, to permit fæces to pass. After twelve hours of this treatment the bandage was removed, and no further prolapse occurred.—*Berliner Tier. Woch.*

The Hypodermic Injection of Camphor in Acute Rheumatism.

A. Borghesi has published *(Il Nuovo Ercolani)* a communication regarding this method of treatment. He has found that repeated rubbings of camphorated alcohol upon muscles and joints affected with rheumatism often induced recovery without any other treatment. This led him to try the effect of camphor given hypodermically. His method is to dissolve the camphor in almond oil, and add a little ether to act as a general stimulant and to render the solution more fluid and more easy to aspirate with the syringe.

The formula is—camphor 2½ grammes, oil of almonds 6 grammes, and sulphuric ether 4 grammes. (Approximately these doses represent respectively 38½ grains, 1½ drachms, and 1 drachm). These quantities are for one injection, but the dose may be doubled. The injection is made in a place where the skin is thin and loose.

There is no local reaction. After the injection the fever diminishes, the animal recovers its spirits, and the cardiac disturbances disappear. The injections should be repeated for three or four successive days.

This method has given good results in horses and cattle, and is equally beneficial in both generalised and localised rheumatism. The author regards it as more efficacious and more economical than the employment of sodium salicylate. (*Annales de Méd. Vét.*)

W. R. C.

Ultra-violet rays are now being employed on a practical scale for the sterilisation of water and milk, while more recently it has been shown that the rays can produce changes similar to those effected by enzymes. Thus starch has been converted into sugar and albuminoids into soluble proteins as though diastase and pepsin had respectively been employed.

NATAL VETERINARY MEDICAL ASSOCIATION.

The fourth annual general meeting was held in the offices of the Senior Veterinary Surgeon, Natal, at Pietermaritzburg, on October 24th, 1913. There were present Messrs. Power, Amos, Sharp, Ewing, Hutchinson, Goulé, Harber, Cordy, Woollatt, Johnston, and the Secretary, with the President, Mr. Carless, in the Chair.

New Members. Mr. S. I. Johnston and Mr. W. G. Barnes were nominated and elected.

The officers of the previous year were re-elected as follows :—

President.—Mr. Carless.

Hon. Sec. and Treas.—Mr. A. Goulé.

An interesting paper was read by Mr. A. F. Harber on the "Surgical and Medical Treatment of Epizootic Lymphangitis, and the possible Conveyers of the Disease from the Infected to the Susceptible Animals." This gave rise to a very animated and instructive discussion.

Mr. Amos moved that the Association contribute to the International Veterinary Congress to be held in London in August, 1914, and also to the Victoria Benevolent Fund. It was decided that sums of £10 10s. and £5 5s. respectively be forwarded to the Committees of the Funds.

An animated discussion then took place as to the advisability or otherwise of the continuance of the practice on the part of Government Veterinary Surgeons of attending cases for farmers and others to the detriment of the private practitioner.

A further paper was read by the Secretary on the subject of "Sheep Scab," which incited a very interesting discussion. The meeting then closed.

A further informal meeting was held later when, in consequence of his leaving to take up a post for the Imperial Government of India, Mr. Shilston resigned the post of Hon. Secretary and Treasurer, to which Mr. Goulé was then elected.

A. Goulé, Hon. Sec.

The Bacteriology of Milk in Relation to Infant Feeding and to the Treatment of Alimentary Disease.

At a meeting of the Manchester Medical Society held on April 1st :—

Dr. Ralph Vincent opened a discussion on the Bacteriology of Milk in Relation to Infant Feeding and to the Treatment of Alimentary Disease. He grouped the organisms according to the conditions determining their growth in milk. 1. Bacteria producing lactic acid but not producing gas. This group was represented by the streptococcus lacticus and the bacillus lacticus. The streptococcus lacticus was the typical organism growing in pure milk at 38° C. At a later stage, when the acidity had become too great for the streptococcus, the bacillus lacticus appeared, for this organism was exceptionally tolerant of acid. 2. Bacteria producing lactic acid, carbon dioxide, and alcohol. This group embraced the whole of the colon organisms, and included the bacillus acidi lactici (Hueppe), bacterium acidi lactici (Esten), bacillus lactis ærogenes (Escherich), and the bacillus coli communis. When pure milk was incubated the growth of the organisms belonging to this group was inhibited by the growth of the organisms belonging to the first group. When milk, however, was grossly contaminated by colon organisms these might acquire dominance, and in such cases the curdled milk showed

evidence of gas production. 3. Bacteria growing in "pasteurised" milk—that is, milk that had been subjected to a temperature between 65° and 100° C. The bacillus putrificus and the bacillus lactis ærogenes were examples of this group, and their products were of a highly irritant and dangerous character. 4. Bacteria growing in milk after it had been raised to 100° C. owing to the fact that their spores had not been destroyed. These organisms were found in milk that had been boiled or "sterilised" and in condensed milk. The group embraced a large number of organisms, the chief representatives being the bacillus subtilis, and bacillus mesentericus, and the bacillus mesentericus vulgatus. When they developed in the intestines extremely powerful poisons of an alkaloidal character were created, and the absorption of these poisons produced profound coma and death. The contents of the small intestine were normally acid owing to the formation of lactic acid from lactose by the lactic bacteria. Were it not for this acid condition putrefactive processes would occur. In the soil the conditions were reversed, for putrefaction was the essential process by means of which dead organic matter was decomposed and rendered available for the vegetable kingdom. The lecturer discussed the methods of bacteriological examinations of intestinal dejecta employed at the Infants Hospital, and drew especial attention to the pathological conditions induced by improper diet. When the infant was deprived of the lactic organism naturally present in milk the colon organisms became proteolytic and grave illness resulted. All his observations had gone to show the extreme importance of the milk for infants being given in its raw condition. He believed that the improper feeding with cooked food encouraged the development of tuberculosis, and that the boiling of milk played an important part in the production of diseased conditions in infancy and childhood. Dr. Vincent concluded with a lantern demonstration of numerous photomicrographs illustrating the organisms found in various pathological conditions of the alimentary tract.

Dr. NATHAN RAW said that he did not think it was sufficiently well known that pure milk was sterile, and that the lactic organisms were non-pathogenic. Dr. Vincent's remarks applied to the conditions obtaining at the Infants Hospital, which enjoyed rather exceptional benefits, but in such towns as Liverpool and Manchester it was surely safer to pasteurise the milk before giving it to children. His own observations had brought him to the conclusion that there was a very real danger in such towns of infants contracting tuberculous disease from untreated milk; he would like to ask Dr. Vincent if he did not think that bovine tubercle bacilli were capable of infecting children.

Dr. C. P. LAPAGE said that he would like to have heard Dr. Vincent's opinion on dried milk. He had come to the conclusion that in slum districts it was safer for the milk to be pasteurised than to be given to infants untreated.

Dr. VINCENT, in his reply, said that he was astonished to hear Dr. Raw speak of a "sterile" milk. Neither human milk nor cow's milk was sterile. Collected with the greatest care both milks after about eight hours' incubation at blood temperature normally showed a profuse growth of the streptococcus lacticus. The bacillus ærogenes capsulatus could always be found in cow's milk provided a sufficient quantity of cow's milk was taken. He did not think that the "pasteurisation" recommended by Dr. Raw could be relied upon to destroy tubercle bacilli. He based his statement in regard to cooked milk and tuberculosis simply upon practical experience, not only of himself but of many others. He could not establish any relationship between the consumption of raw milk and the incidence of tuberculosis. On the contrary, he found that children fed on boiled or condensed milk were much more prone to the disease, especially in its more serious forms. He found it difficult to understand the attitude generally adopted by medical men who favoured the boiling of milk, for they were uniformly silent on the subject of boiling the butter, a concentrated milk product always prepared from raw milk. Practically all the infants attending the out-patient department of the Infants Hospital were fed on raw milk which the mothers obtained from the ordinary milk shops. The infants did extraordinary well, and the work there afforded no justification for the advocacy of boiled milk. He was inclined to agree with Dr. Lapage with regard to dried milk. If a child had to be fed on a cooked food, then dried milk was better than boiled milk.—*The Lancet.*

At the Infants Hospital, Westminster, on April 21st, as the first of a series of lectures on "Babies," Dr. Ralph Vincent, the senior physician and director of the Research Laboratory at the hospital, spoke on the chemistry of milk.

Dr. Vincent pointed out that milk is practically the only food containing all the elements necessary for an infant's nutrition. He laid particular emphasis on the superiority of uncooked over cooked milk, for in the latter the lactic organism was destroyed. This organism was essential, as it produced an acid by the fermentation of milk and sugar which prevented the growth of putrefactive and other injurious organisms.

The essential requirement for a baby, insisted Dr. Vincent, was clean pure milk in its natural condition.

Electric Treatment of Milk.

At a meeting of the Liverpool Medical Institution Professor J. M. Beattie submitted a paper on "The Electric Treatment of Milk." The two problems to be solved were: 1. Could the pathogenic bacteria be destroyed? 2. Could the milk be turned out free from pathogenic bacteria and yet otherwise unaltered? He described the initial difficulties. He then gave a detailed description of the apparatus he employed. A rapidly alternating current was used, and there must be no eddies in the milk and no cessation of flow. He gave an account of numerous experiments showing the effect on the bacteriological content of the milk. So far milk infected by tubercle had been rendered free from tubercle bacilli and the bacillus coli group. Guinea-pigs were freely used in the experiments. The only bacteria left in the milk were sarcinæ, sporing bacteria, and occasional streptococci, the bacilli coli group, and the tubercle bacilli being invariably killed. Careful examination of the treated milk revealed no difference between it and fresh milk, the milk tasted the same and had the same odour as fresh milk, and its keeping power was greatly increased. He stated that the plant was devised and many experiments carried out by Mr. Lewis, of the Bacteriological Laboratory, to whom the success of the experiments was due.

The President (Dr. E. W. Hope) referred to the very large voltage used, and also to the effect that the new apparatus was "fool-proof." The real object of the investigation was the prevention of infant mortality. 25,000 children had been fed from sterilised "humanised" milk in Liverpool in the last 15 years with the most excellent results, but he realised that they had now come to a much better way of dealing with the milk.

Mr. G. C. E. Simpson drew attention to the biochemical aspect of the problem of milk sterilisation, mentioning the work of Fröhlich, Holst, and Funk. His own work had shown that the present method of preparation by the Liverpool Corporation did not destroy all the essential antiscorbutic vitamines of fresh milk. He

suggested a trial of the biochemical properties of the milk treated by the high electric currents before it was used widely.

Dr. R. Stenhouse Williams regarded the method practised by Prof. Beattie as the best yet discovered, since from the chemical standpoint it left the milk practically as in the raw condition. At the same time the question of its effect upon vitamines was in doubt, and the importance or otherwise of this in sterilised milk used for children should be absolutely settled before any such method was officially adopted. In his view the question was whether they ought not rather to improve the methods used in the taking of the milk instead of covering up bad work by sterilisation.

Mr. Golding (Reading) required more investigation from the chemical and biochemical point of view. He mentioned that copper electrodes might erode and precipitate copper in the milk and produce a taint, and inquired if this method had been applied to water, and what the probable cost might be.

Dr. J. Murray Bligh held that the value of the process depended upon the results obtained by feeding the milk so treated to children. Sterilisation of milk was a retrograde movement.

Professor Beattie, in his reply, admitted that a clean milk supply was certainly the ideal, but if it proved impossible to obtain an adequate supply of pure milk then sterilised milk was essential. He agreed that the whole system should be tested for one year before being set up elsewhere.—*The Lancet.*

The Mallein Test for Glanders.

Dr. J. R. Mohler, of the U.S.A. Department of Agriculture, contributes the following letter to *The Breeders' Gazette*, Chicago :—

"You submit to me a letter from one of your readers in which he quotes some unfavourable experiences in testing horses for glanders with mallein. His statements are somewhat exaggerated and furthermore his quotations on the results of the different investigators are not entirely accurate. Thus for instance in Hungary out of 570 reactions 536 showed lesions of glanders on post-mortem, and in other statistics from Hungary out of 1,385 reactors 1,313 showed lesions of glanders. My compilation, which includes many thousands of mallein reactions, showed the test to be reliable in about 90 per cent. of the cases.

While mallein and tuberculin are somewhat similar biological products, the general opinion of those who have had extensive experience with both of these agents is to the effect that subcutaneous injection of tuberculin has proved to be far more reliable in diagnosing tuberculosis than subcutaneous injections of mallein in detecting glanders.

The subcutaneous mallein test has unquestionably accomplished good results, but the fact that a certain percentage of horses free from glanders react to the test has made a more accurate method of diagnosis desirable. The serum tests, which at present constitute the official tests in Germany, are without doubt the most reliable means of diagnosing glanders. In our work the serum tests, known as the combined complement-fixation and agglutination tests, have proved reliable in 99 per cent. of cases. As these tests are delicate laboratory tests they are not available to the practising veterinarians.

We have been for some time engaged in extensive investigations with the ophthalmic mallein test, and from all indications this method will offer the most accurate means for diagnosis available in general practice. It is more reliable and also simpler in its application than the subcutaneous mallein test, and in its interpretation there is less chance for error. Should the eye test give a non-typical reaction, the serum of such an animal may be readily tested by the combined serum tests, which is not the case after a subcutaneous mallein test, since the subcutaneous injection of mallein interferes with the interpretation of the serum test for at least thirty days."

About Mendelism.

In 1791 a Massachusetts farmer, by name Seth Wright, found in his flock of sheep a male lamb with a long, sagging back and short bent legs, somewhat like those of a German dachshund. It at once occurred to this hard-headed Yankee that if he could get together a flock of short bow-legged sheep a good deal of unprofitable labour in the shape of building high fences would be saved, and, incidentally, he would have more time at his disposal for swopping lies about his corn crop and pumpkins, under the verandah of the local country store. So it came about that he mated this curiosity of the ovine race with ordinary sheep, putting the young ewes back to their own sire. By this means in a very short while he evolved a true-breeding race of short, bow-legged sheep, since known as the Ancon breed.

There are two highly significant conclusions to be drawn from Seth Wright's breeding experiment. We see first that the *male alone* may be the originator of a particular breed, and, secondly, that, without the aid of alternative heredity (Mendelism), Seth Wright could never have built up the Ancon breed from a single male lamb. Had not the characters he desired segregated clean from those of the ordinary sheep which he had to use in the first instances for his females, the new characters would inevitably have become swamped by opposing weight of ancestry.

A similar case may be cited in the hornless breed of Hereford cattle of the United States, which all arose at a place called Atkinson, Kansas, in 1889, from a single hornless Hereford bull. These polled Herefords now constitute one of the bovine aristocracies of America, with a herd-book all to itself.

The British breed of Shorthorn cattle consists of a vast medley of female tap-roots. In fact, any heifer is eligible for the herd-book which can show four pedigree male crosses, and but five are necessary for the insertion of a bull in its pages. For entry in the French Shorthorn herd-book the last sire in the pedigree must have been born in or before 1830, but there is no stipulation about any female tap-root. The Argentine people are satisfied with even less. All that they ask is that the last sire on the female side shall have been born in or before 1845, and there should be no unregistered males in the pedigree after that date.

What are the tap-root of the Hackney, the Shire, or the Clydesdale? There is every sort of a mare at the bottom of the Hackney's pedigree; and yet there is no domesticated animal which breeds as true to his own particular type. Again, the Shire horse owes his characteristics solely to his Flemish male ancestors. A little over a hundred years ago there was not a single heavy mare in the hands of a Lancashire farmer, and yet the light mares of the county are the female tap-roots of the weighty and hairy-legged breed of Shires! Finally, the Clydesdale arose from a cross of the Highland Garron and Flemish stallions introduced by one of the Dukes of Hamilton.—*L.S.J.*

Cocoanut Residue as Cattle Food.

After the extraction of the fat, which is used in the manufacture of industrial products, like soap, candles, etc., the residue is compressed into a cattle-food cake. The greater part of the coccanut cake made in England

and on the Continent finds a ready sale in Continental markets. The following analysis is taken from a recent publication called *Invest in the Tropics*:—

	Fats.	Carbo-hydrates.	Albu-minoids.	Water.
Cocoa cake	11·2	47·4	18·2	9·4
Oil palm „	9·5	55·4	16·1	10·5
Linseed „	8·9	27·5	24·8	12·2

Cavalry Remounts—Canadian Horse-breeding Scheme.

The Government have authorised the Militia Department to lease to the National Livestock Exchange 65,000 acres of land 60 miles north of Medicine Hat and south of Red Deer River, for the purpose of collecting and producing thereon half-bred cavalry remounts. The company will pay an annual rental of two cents. an acre, and must produce from thoroughbred sires or thoroughbred mares remounts to the number of not less than 1,500 each year after 1916. The Government of Canada are to have a right of pre-emption in respect of all horses raised by the Exchange, and the company must hold and mature until the age of 3½ years all horses which the Militia Department may desire for military purposes. The price to be paid is not to exceed 250 dols. (£50) a head.

It is further agreed that the British War Office may have pre-emption rights at the same prices and terms in respect of such horses as remain "after the Minister has made his choice."—*The Times.*

The Mule in U.S.A.

The mule is without equal for work in the mines, logging camps, or for trucking and delivery purposes in the large cities. He is a hard worker and, contrary to popular supposition, is one of the most tractable work animals. The idea that the mule is unruly is without grounds; breeders and farmers who have worked thousands of them assert that mules that are downright shirkers of work are not common. Where the mule is well treated as a colt he developes into a willing worker that possesses the ability to resist disease, to withstand the strain of severe labour, and to accomplish more work on less feed than can the horse. Where comparative estimates have been made it has been found that a much lower percentage of mules are bad-mannered than of horses. A particularly commendable trait in the make-up of the mule is that he takes good care of himself, with the consequence that one rarely hears of a sick mule. You seldom hear of one being troubled with founder or dying from colic, simply because this beast is intelligent enough to know when he has eaten sufficient feed; once his hunger is satisfied nothing will induce him to eat more. Unlike the horse, the mule is not attracted by the uncovered grain bin.—*The Ohio Farmer.*

The Cost of Swine Fever.

At a recent meeting of the Central Chamber of Agriculture, Mr. C. Bathurst, M.P., said that, in answer to a question of his, Mr. Runciman had stated that during the five years (1903-1907) prior to the issue of the existing Orders, there were 7,107 outbreaks of swine fever, as compared with 11,207 during the five years (1909-1913) since the issue of those Orders. During the five years prior to the issue of the Orders there were 36,046 pigs slaughtered as diseased or exposed to infection, and during the five years since the issue of the Orders there were slaughtered 131,980 pigs. With regard to the cost of administration and compensation, the figures were as follows:—Compensation during the first year that the Order was in operation (1908-9), £17,170; administration, £39,608. In 1909-10, £18,531 for compensation, and £44,244 for administration. In 1910-11, £21,288 for compensation, and £48,669 for administration. In 1911-12, £51,351 for compensation £62,059 for administration. In 1912-14 there was a slight falling off in the compensation, owing probably to the reduction in the pig population. There was £46,952 for compensation and £66,390 for administration. These figures made a grand total throughout those five years of £423,262 out of public money expended in compensation and administration.

The pig population was steadily decreasing in this country, unlike any other country in Europe. The national Bill for the extermination of the disease was steadily rising, and the trade in pigs was equally constantly declining. The Board of Agriculture could not stamp out this disease, and for this reason—the disease existed in a large number of animals which showed no obvious or discoverable symptoms of the disease whatever, and such pigs were capable of spreading the disease to others. It was impossible to defend the existing vexatious and harassing restrictions when there was the possibility of the disease being spread from pigs which showed no sign of the disease.

Mr. Wood Homer pointed out that before the Order of the Board five years ago there was in operation a system of local control which many of them thought more efficient than the control effected by the Swine Fever Order, and Mr. Bathurst admitted that the present system had proved less efficient than the local control was.

A Veterinary Scheme for Co. Dublin.

At the April monthly meeting of the County Dublin Farmers' Association, Mr. McGrane introduced the subject of a scheme of veterinary attendance and advice for members on special terms. He pointed out that the desirability of making some definite move in this direction could not be gainsaid, and he understood that they would find a hearty co-operation from the members of the veterinary profession if a start were made.

Mr. Grimes stated that he was strongly in favour of a move being made in the direction intimated, and said that already they had been in consultation with the Veterinary Medical Council of Ireland.

Eventually it was proposed by Mr. McGrane, seconded by Mr. Grimes, and passed:—"That a small committee be appointed to formulate a scheme for veterinary attendance."

Dairy Calves—A suggestion.

The following is quoted from *The Breeders Gazette*, Chicago:—

"It is a serious loss to the country to breed nearly all these cows to either scrub or dairy-bred bulls, making it almost necessary to sell the calves for veal. One cow during her life should produce eight calves. On an average four of these will be males and four females. The keeping of one of these four females for the dairy herd would maintain such a herd at constant size, with no losses from disease. The keeping of two heifer calves out of every four heifers born should be enough to permit a certain amount of culling and allow for an increase in the herd. Why not then breed half the cows on our farms to dairy-bred sires, vealing the male calves and retaining the heifer calves for the herd? If the best half of the cows were to be bred to a dairy sire and the other half to a beef sire, feeding all the offspring from the beef sire for beef, we should be following a system which would reproduce the highest efficiency in beef and dairy produce."

Splenectomy and Increased Resistance to the Tubercle Bacillus.

Some striking experiments upon the results following removal of the spleen in mice and rats, which appear to demonstrate an increase in the power of resistance to the tubercle bacillus, have been recorded by Lewis (Paul A.) and Margot (A. G.) in the *Journal of Experimental Medicine* (1914, Vol. XIX., p. 187). Into the peritoneal cavity in 21 albino mice was injected a culture of bovine tubercle bacilli; the quantity varied from 1 to 5 mgr. in different animals. Within a time varying from a few hours to a few days all these animals died, and post-mortem examination showed extensive infection of many organs. A similar proceeding applied in 13 mice of similar weight, from which, however, the spleen had been removed, but which had fully recovered from the effects of the operation, showed that a marked lessening of the effects of the inoculations had occurred. Four of the animals were still living at the time of writing, and the rest survived a longer time than did the non-splenectomised animals. Further, the range of infection was more limited in the body. Similar results were gained in rats. In order to test the strength of the possible objection that the mechanical effect of the removed spleen altered in some way the character of the peritoneal inoculation, a second series of animals was inoculated into the pleural cavity. Ten controls all died; of the ten splenectomised animals, two survived, and the rest, again, lived for a much longer time. In this series, too, the range of infection was limited. Similar experiments upon guinea-pigs and dogs were not successful, and the same results were not gained.—*The Lancet.*

Magnesium Sulphate Treatment of Tetanus.

It has been shown that tetanus antitoxin is incapable of combining with and neutralising tetanus toxin when the latter is anchored to the nerve cell. For this reason anti-toxin does not appear to exert any curative action in severe cases—at all events, after the symptoms are well marked. Recent researches have brought to light two other methods of treating severe tetanus—the magnesium sulphate treatment of Meltzer and Auer, and the carbolic acid treatment of Baccelli. The magnesium treatment depends on the anæsthetic effect of magnesium in the animal body. When applied intramuscularly or intravenously, the sensory nerves are first paralysed, then voluntary movement is arrested, next the respiratory centre is paralysed, and lastly, if the animal be kept alive by artificial respiration, the muscles of deglutition and the vasomotor centres are paralysed. After subcutaneous injection, the anæsthesia which follows is flaccid and respiratory paralysis sets in later, while when applied directly to a nerve trunk it acts like cocaine in cutting off the nerve path. It has further been shown that the symptoms and signs of magnesium anæsthesia can be completely checked and removed by injections of calcium salts. It appears from the pharmacological experiments that the the circulation is but little affected in magnesium poisoning, Respiratory failure can be arrested by the application of physostigmin or by insufflation of oxygen. Further, it has been shown that in anæsthesia produced by lumbar injections of magnesium salts washing out the lumbar sac suffices to remove dangerous symptoms of respiratory failure. The depressant effect in tetanus was first studied in animals and was then applied to man, 25 per cent. solutions of magnesium sulphate being injected in doses of 1·2 c.cm. per 10 kg. body weight.—*Brit. Med. Journal.*

Augmentation of Bacterial Toxicity by Distilled Water.

In 1912 Hort and Penfold, working in the former's laboratory at the Lister Institute, brought forward evidence to show that variation in the volume of the diluent has a profound effect upon the toxic action of bacterial cultures. If, for example, constant fractions of a broth culture of *B. typhosus*, suspended in small constant volumes of freshly distilled water, were injected intravenously into healthy rabbits, it was found that the toxic effect as expressed in fever was also constant. If, however, the small quantities of water were replaced by large quantities—the fraction of broth culture remaining constant—it was found that death often ensued in an hour or two. Control observations showed that neither fever nor death was ever produced by injection of pure water alone, either in small or large quantities—that is, within the limits recorded. Death never followed the injection of small fractions of broth culture either alone or in small quantities of water. A similar augmentation of toxic effect was also produced. though not constantly, by substitution of normal saline for water. Finally, it was shown that the effect could be produced by injecting the water or saline before the broth cultures. In a paper appearing in our issue of Feb. 14, Penfold and Violle record the results of further experimental work conducted on similar lines. These authors now show that distilled water administered simultaneously with, or prior to, the culture or filtrate markedly increases the toxic action of many organisms, and notably of the cholera vibrio, with which the majority of the experiments deals. Extremely minute quantities of culture or filtrate which would, if given alone, be completely atoxic are rendered acutely and fatally toxic when administered with distilled water. With regard to the explanation of this action, the authors show that hæmolysis of red cells plays at least some part. Administration of the culture with a quantity of lysed red cells, which by itself would be quite atoxic, produces fatal intoxication. It is well known that many cholera strains secrete a hæmolysin, while other organisms which do not possess this power are, however, able to break down red cells when growing in actual contact with them. It is possible, therefore, that the form of intoxication described by Hort, Penfold, and Violle may shed some light on the etiology of certain types of bacterial intoxication which at present are little understood. Doubtless, also, it may have an important bearing on problems associated with anaphyaxis.—*Brit. Med. Jour.*

A New Physiological Hæmostatic.

Attention is drawn in a recent number of *Il Morgagni*, No. 17, March 22nd, 1914, Milano, to the use of the fibrin ferment of the blood as a valuable hæmostatic. This substance is to be found in all the cells of the organism and extracts of all fresh organs contain it. As prepared by Zanoni it exists as a fine powder, of a colour varying from light to dark yellow, slightly unctuous to the touch, and with an odour like that of goose fat. It is slightly hygroscopic and but little changed by light and air, sparingly soluble in water and chloroform, and less still in 95 per cent. alcohol. Aqueous solutions are not limpid, are markedly opalescent, and leave an insoluble residue; they cannot be filtered since most of the ferment remains on the filter. They must therefore be used as they are. This substance which Zanoni has named "coaguline," reduces the time required for the formation of blood clot from 15 minutes to 1 minute. In other words, the blood coagulates almost immediately in the presence of coaguline, and

this power is retained for at least five to six months when it is preserved in the form of powder; after this it gradually diminishes. Certain preparations, however, have remained strongly active even after a year or more. The coagulating power of coaguline resists heat to a certain extent, for even after heating the powder or solution to 95° C. in a water bath its activity is still manifest, although somewhat weakened. This necessitates the time and temperature for sterilisation being reduced to a minimum. To ensure a full hæmostatic action it is not enough to apply the powder or solution to the bleeding surface since the blood would wash it away before it had time to complete its coagulating action; it must be kept *in situ* for a short time with a pledget of cotton or gauze and with slight pressure. The solution can be injected into cavities and operation wounds, but for hypodermic use a solution having an insoluble sediment is not suitable. To obviate this the author found that by incorporating the coaguline with sugar an opalescent solution could be obtained with water which could be sterilised by heating.

The Effects of Light on Bacteria.

The experiments of Mme. Victor Henri, which have led to the discovery that the character of bacteria can be changed by the action of ultra-violet light, receive confirmation in this country by somewhat similar effects that have been recently produced with visible light of longer wave-length. Bacteria have been grown continuously, and repeatedly sub-cultivated, under the influence of certain definite regions of the spectrum, with remarkable results both on their colour and on their size and rate of growth.

The most interesting results were perhaps those obtained with yeasts; fermentation in shallow vessels flooded with deep orange light took place with nearly twice the ordinary rapidity, but violet light was found to retard the process. Bacteria of pronounced colours, due to natural pigmentation, have also been cultivated in tubes placed under the direct rays of the spectrum, and in some cases the colour of the bacteria has disappeared. Orange-coloured cocci treated in this way and grown in blue light for several weeks became perfectly white, and their loss of pigmentation appears to be permanent, as when grown again under normal conditions successive sub-cultivations remained white, Their pathogenic properties have not so far been tested. but it now seems probable that these also would be changed.

The Craze for Appendicectomy.

To the Editor of The British Medical Journal.

Sir,—The writings in the *Journal* prove that the damage which is done to the abdominal wall in removing diseased appendices is necessary; it is also plain that the abdominal wall should not be wounded to remove a normal appendix. The question at issue is one of skill, the ability to diagnose a diseased appendix.

It is to be regretted that surgical interest in the function of this cæcal vestige has become less and less as the erroneous deduction of the lymphoid hypothesis has tended to mask the true nature of the appendix; for the study of the vestigial nature of the apical portion of the human cæcum throws a flood of light on the diseases of the large bowel in relationship to their causation and treatment.

It is not well recognised that man's digestive tube has been evolved to deal with a combination of carnivorous and herbivorous foods, and that neglect of the latter fact is responsible for the diseases of the large bowel and for dental decay.

Our authorities openly avow that they do not know the function of the ileo-cæcal value, a structure that was evolved when ancestral man was compelled to eat coarse herbage, for the purpose of preventing the regurgitation of cæcal content into the ileum, to the hampering of the function of the small gut—namely, that of absorbing ingesta which the stomach had prepared for absorption. The function of man's cæcum is to digest coarse vegetation; it reached its highest development when ancestral man ate uncooked herbage. During the digestion of such material much gas is generated and the tension ruptured the external muscular coat in the region of the ileo-cæcal valve. In the atrophied cæcum of civilised man the ruptured part of the cæcum exists as the banded cæcum and its unruptured apical part as the vermiform appendix. The peculiarity of the ruptures sustained by the human cæcum explains the extreme rareness with which the vermiform appendix appears in the animal kingdom; it occurs only in man, a few anthropoid apes, and the wombats. The changes in the human cæcum are all traceable in the primate mammals. They accentuate the fact that appendicitis is primarily due to lack of coarse vegetation in the food of civilised man; they indicate that diseased appendices are often associated with large bowels that are weakened from long disuse. Perhaps the severest criticism that can be made against the surgery of the vermiform appendix is that the scar in the abdominal wall is a sign of man's stupidity in not eating that food for which his digestive tube has been evolved.—I am, etc.,

WALTER STAPLEY, M.D., M.R.C.V.S.

Cambridge, New Zealand.

REVIEW.

THE COMMON COLICS OF THE HORSE, THEIR CAUSES, SYMPTOMS, DIAGNOSIS, AND TREATMENT.—By H. CAULTON REEKS, F.R.C.V.S., Examiner in Pathology and Bacteriology to the R.C.V.S. Third Edition. Crown Octavo. Pp. xvj.+369. Thirty-two Illustrations, many of which are new. Price 6s. net. (Baillière, Tindall & Cox, 8 Henrietta Street, Covent Garden, London).

It is now nearly twelve years since Mr. Reeks first published this book. Hardly any veterinary work has been more widely read and discussed since then, or has exercised more effect upon everyday practice. Its teaching is far from being universally accepted, but there is no doubt that it has profoundly modified the ideas and methods of many clinicians who certainly would not endorse the author's views in their entirety. That being so, a new edition is always welcome, and the present one—the third—is rendered all the more so by the inclusion of much new matter, some of it highly controversial.

The work is so well known that a review may fairly be confined to the new matter. This comprises six chapters, amounting altogether to over 100 pages. One chapter deals with subacute obstruction of the cæcum, three with displacements of the double colon, one with the possibility of spontaneous reduction of the bowel in torsion, and one with the comparative rarity of enteritis.

In the chapter upon cæcal obstruction, the four cases seen by Professor Gofton (who gave the first clear account of the condition in 1912) are described. One case of the author's is added, with much detailed discussion—largely based upon the work of Major-General Smith. The author thinks that these cases may be commoner than is supposed, that at present they should not be regarded as necessarily hopeless, and that their causation may be explained by adopting Smith's heterodox view of the passage of food direct from the ileum

The Veterinary Record.

The accompanying photos show an osteosarcoma of actinomycotic origin on the jaw of a four-year-old filly. The condition was produced in less than a year.

F. E. PLACE, B.V.Sc., M.R.C.V.S.

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into the colon. If the latter is the common course of the food—and there is much to support Smith's view—it is easy to see that interference with it may cause cæcal impaction. This chapter is valuable, and the succeeding one upon displacements of the double colon is more so. Space enables us to say very little of these. Mr. Reeks regards displacements of the double colon—including slight displacements or partial twists—as very common indeed. Diagnosis and treatment are fully dealt with, and the section contains a detailed account of the Continental method of reducing such displacements by rectal manipulation. So far as we know, the author is the first Englishman to attempt this procedure, and his experience, which includes some successes as well as failures, is reported with commendable frankness.

In other pages the author maintains that spontaneous reduction of some intestinal torsions is possible, and regards the cases often diagnosed as enteritis as nearly always due to strangulation from partial or complete twist. The new illustrations are all helpful, and altogether the fresh matter alone is well worth the cost of the whole book.

In future editions, some recasting might be advisable. Passages still remain from the first edition which—considering the later development of the author's views—might now be deleted without loss. Again, we should like to see a fuller account given of stomach tubes, and we think that the work ought now to include some consideration of verminous colic. But we can only describe the present edition as likely to be even more suggestive and valuable than its predecessors. Controversial it still is, and will probably always remain—the added chapters certainly do not make it less so. No book has done so much as this one to stimulate practitioners to examine and think out each individual case of colic as a separate problem, and that invaluable feature becomes more marked with each edition.

W. R. C.

Election of Council R.C.V.S.

The following is the list of gentlemen who have been nominated. There are eight vacancies.

		Proposed by
J. Abson,	Sheffield,	Sir J. M'Fadyean, R. C. Trigger.
G. A. Banham,	Cambridge,	W. J. Mulvey,
J. W. Brittlebank,	Manchester,	G. H. Locke, E. H. Stent.
J. C. Coleman,	Swindon,	W. F. Barrett, S. H. Slocock.
P. J. Howard,	Ennis,	E. C. Winter, J. McKenny.
A. W. Mason,	Leeds,	J. Clarkson, J. Abson.
W. Shipley,	Gt. Yarmouth,	Sir J. M'Fadyean F. W. Garnett.
H. Sumner,	Liverpool,	J.B. Wolstenholme, W. J. Mulvey.
T. C. Toope,	Dover,	E. L. Dixson, J. Crowhurst.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
	Out-breaks (a)	Animals.	Out-breaks (a)	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered. *
GT. BRITAIN. Week ended April 25	23	25			2	2	36	57		129	1529
Corresponding week in 1913 ...	19	19			5	15	50	113	2	85	1441
Corresponding week in 1912 ...	18	18			3	6	54	93	1	91	1101
Corresponding week in 1911 ...	22	28			4	4			3	78	782
Total for 17 weeks, 1914	315	337	11	74	32	77	1109	2023	139	1165	11358
Corresponding period in 1913 ...	234	251			59	193	1243	2598	112	690	9330
Corresponding period in 1912 ...	394	444			57	132	1771	3972	150	1106	14025
Corresponding period in 1911 ...	342	398	1	18	71	214			292	755	7969

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: London 2.
Board of Agriculture and Fisheries, April 28, 1914.

IRELAND. Week ended April 25	...	...	2	7	...	...	Outbreaks 2	3	3	6
Corresponding Week in 1913 ...	...	...	...	...	...	...	2	7	2	35
Corresponding Week in 1912 ...	...	...	...	...	...	...	...	7	4	44
Corresponding Week in 1911 ...	...	...	...	...	...	...	1	8	1	67
Total for 17 weeks, 1914 ...	...	...	67	892	...	...	39	311	91	391
Corresponding period in 1913 ...	...	...	...	...	...	...	79	245	48	294
Corresponding period in 1912 ...	1	1	...	...	...	...	31	240	87	712
Corresponding period in 1911 ...	3	3	...	...	1	2	37	224	45	799

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, April 28, 1914.
Note.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

"Research."

In recent years the word Research has grown as familiar in our ears as "Art" and "Hygiene" were in the not distant past. One is apt, from mere habit, to associate the term mainly with Chemical and Biological problems connected with medical work, but work goes on continuously in other directions, and not the least valuable are those links which connect up "pure science" with practical utility. In *The Popular Mechanics Magazine* is given a brief account of recent additions in this direction to the University of Pittsburg, U.S.A., from which the following excerpt is taken. It is just one more example of the appreciation of the abilities and enthusiasm of the younger men in other countries which is so wastefully lacking in Great Britain.

"How can we make better bread?" asked a big baking company of the late Prof. Robert Duncan, director of the Mellon Institute. The first step in finding the answer was to put a trained chemist at work in one of the institute's laboratories. The baking company paid him a salary of 750dols. a year for two years, and offered him a prize of 2,000 dols. if he found a satisfactory answer.

Before he had finished his experiments, another baking company asked the same question. They offered 4,750 dols. a year for two years and a prize of 10,000 dols. for any practical results. And the chemists got results—found not only one answer but a dozen answers—found how to make better bread, while at the same time cutting down the cost of manufacture; found how to make "salt-rising" bread of better quality than the kind grandma used to make. They found out, in short, so many interesting and valuable facts about the chemistry of breadmaking that the companies which are now utilising these facts are already saving probably more than 250,000 dols. a year in the cost of their produce and giving their customers better bread than they have ever had.

Industrial Fellowships.

Dr. R. K. Duncan, at that time Professor of Industrial Chemistry in the University of Kansas, suggested in 1907, in a book on chemical problems, that a practical means of giving American industry the benefit of the best scientific research might be found in the establishment of what he termed "Industrial Fellowships," in some university.

He proposed that the manufacturer should lay his particular problem before the university authorities, paying an annual sum sufficient to provide a fair salary for a skilled research worker for a limited time, and offering a prize either in the form of a cash bonus or an interest in the profits derived from the discovery, if the problem were solved. Several manufacturers took up the idea, and a number of industrial fellowships were established at the University of Kansas. The idea spread, the University of Pittsburg invited Dr. Duncan to take charge of similar work at that institution, and the Mellon Institute is the result. Secrecy is the rule at the Mellon Institute—the protection of the trade secrets of the manufacturers in whose interests the research work is being done, in order that they may reap the benefits of their investments in the fellowships. Yet every contract between an industrial company and the Institute contains a provision insuring the eventual publication, after a reasonable lapse of time, of the results obtained, for the benefit of the whole industrial world.

"We are now testing, in a unit plant, a new method of extracting copper at a profit from 'tailings' and low-grade ores, which were formerly of little or no value. Some of our fellows have made important discoveries relating to the hardening of fats by catalysis. An interesting research now under way deals with the purification of sewer grease for use in soap making."

"The utilisation of leather scrap; a method of making glass of a new and distinctive colour; the whole subject of the chemistry of glue, of which little is known; methods of coating steel with copper; questions dealing with the utilisation of natural gas; the production of cement, and the corrosion of steam radiators—these are among the practical, present-day industrial problems which are being attacked under these industrial fellowships. Most of them will be solved. There have been but two failures so far to get the results sought, and these were such as to reflect no discredit on the institute."

Brain in Birds.

The brain in birds is large in proportion to the body. If we admit that intelligence depends upon the weight of brain, then the goldfinch must be placed about the top of the list of birds. In this handsome, clever, and active fellow, the brain weighs one-fourteenth of his whole body. It must be remarked, however, that attempts to draw conclusions as to the intelligence of certain birds from a comparison of the weight of the brain with that of the body have been considered futile. In man, the brain forms from 1-22d to 1-33d of the whole body; in the canary, 1-14th; the sparrow, 1-25th; the chaffinch, 1-27th; the redbreast, 1-32d; the Amazon parrot, 1-42d; the blackbird, 1-68th; the duck, 1-257th; the eagle, 1-260th; the goose, 1-360th; the domestic hen, 1-412th. The goldfinch can be taught to perform a number of tricks. He can draw up water and food by an apparatus designed for the purpose; he can pretend to be dead; and, without showing fear, he succeeds in firing off a cannon. By some, the preternaturally cunning raven is supposed to be the most highly developed of birds. His courage is so great that the eagle respects it; and his intelligence prevents him from getting into unseen though suspected dangers.

Flies and Disease.

Dr. Edward Halford Ross lectured recently before the Royal Society of Arts on "House Flies and Disease." In describing the work of his brother, Sir Ronald Ross, on malaria, he told in detail the story of how the town of Ismalia on the Suez Canal was converted from a deadly to a perfectly safe place.

Research has shown that flies may convey ophthalmia, cholera, tuberculosis, swine fever, and possibly diphtheria and small-pox. They also carry the deadly summer diarrhœa of children which in 1910 killed 1,811 children under two years of age in London.

"At Cairo, during the spring of 1909, Dr. Ross said, "When I was health officer of that city there, the summer was ushered in by a heat wave on May 1, and the temperature rose to 102° F. in the shade. Fourteen days days later the greatest plague of flies ever remembered appeared in the city. Food, milk, and fruit were contaminated by them. Then began the illness and death of the newly born, not only the first born as in the Biblical story. In two months 3000 children under five years had succumbed to enteritis."

Mr. Hugh Ferrier, the Corporation veterinary surgeon, reported to a meeting of the Public Health Committee of Dundee Town Council that glanders had broken out in the city, and the Committee decided to shut off the water in the street drinking troughs for a period of three weeks, and to advise horse-owners to carry pails for providing their horses with water while at work.

Sterilization of the Hands by Thymol.

Monzardo (*Gazz. degli Osped.*, Nov. 13th, 1913) points out some of the disadvantages of the iodine treatment of the skin (staining, skin irritation, and hardening), and then describes a treatment he has used for the last year. This consists in the use of an alcoholic solution (5 per cent.) of thymol, used pretty much in the same way as iodine. The author has performed 100 hernia operations, 53 laparotomies, and many surgical operations, as well as obstetric work, under his method of disinfection, and is well satisfied with the results. The solution, he says, is non-toxic non-irritating to the skin, does not affect instruments, and is at least as powerful as iodine as a disinfectant.—*B. M. J.*

The Local Names for Sheep.

The following list of the different names, according to age, sex, etc., given to sheep may be useful as well as interesting.

From birth to weaning the male is variously called a "tup-lamb," "ram-lamb," "pur-lamb," or "heeder"; if castrated, a "hogg-lamb." The female is a "ewe-lamb" or "gimmer-lamb." Generally a sheep is a lamb until weaned; but in the South of England, and especially among the Kent or Romney Marsh "keeping" sheep, the animals are "lambs" until they are a year old; the keeper taking lambs, wethers, or ewes, as the case may be, although the former are, of course, weaned long before sending out for winter keep.

From weaning to first shearing the male is a "hogg," "hogget," "hagerel," "hoggerel," "tup-teg," "lamb-hogg" or "tup-hogg"; if castrated, a "wether-hogg" or "he-teg." The female is a "gimmer-hogg," "ewe-hogg," "sheeder-ewe," or "ewe-teg." Hogget wool is wool of the first shearing, but in these progressive days lambs are sometimes shorn in the first year, and this is calculated to introduce some confusion.

From the first to second shearing the male is a "shearing," "shearling," "shear-hogg," "dinmont," "diamond ram," "ram-tup," or "one-shear tup"; if castrated, a "shearing-wether," "shear-hogg," "wether-hogg," "wedder-hogg," or "two-toothed wether." A female is a "shearing ewe," "shearing-gimmer," "theave," "gimmer," and "double-toothed ewe or gimmer." A "yeld-ewe" is one that has ceased to give milk, and a "draft-ewe" or "draft-gimmer" is one that has been drawn from the breeding flock.

From the second shearing to the third the male is a "two-shear ram," etc.; if castrated, a "four-toothed wether" or "two-shear wether or wedder." A female is a "two-shear ewe." She is a ewe if in-lamb; if not, a "barren gimmer"; or, in Scotland, if not put to the ram, a "yild gimmer." From the third to fourth shearing the male is a "three-shear ram or tup"; if castrated, a "four-toothed wether" or a "three-shear wether"; if female, a "three-shear" or "winter ewe."

Afterwards the ram is an "aged tup"; the wether "full-marked" or "aged"; and the ewe, aged or "three winter." In the North "shearing" is employed as indicating age, while the south countryman speaks of "teeth," the term, of course, having reference to the eruption of the permanent incisors. Quite recently we met a farmer who, until he received ocular demonstration, refused to believe that a sheep had no incisor teeth in the upper jaw. It may be news to others to learn that both sheep and cattle are there furnished with what is called a dental pad instead of teeth.

VETERAN, in *Farm and Home.*

The Horse in U.S.A.

Says an American journal, "The horse is coming back. In all sections of New York, especially on Broadway and Fifth Avenue, the horse-drawn vehicle, public and private, is coming into its own again. The novelty of the automobile is wearing off along with the price, and people who ride for pleasure are turning back to man's tried and true equine friend. With the horse the hansom cab is coming into favour again, and they may be seen now in large numbers before all the big hotels and at the public hack stands. Five times as many horse cabs are in evidence now in New York as were used a year ago."

ARMY VETERINARY SERVICE.

Extract from *London Gazette.*

WAR OFFICE, WHITEHALL, April 24.

REGULAR FORCES. ARMY VETERINARY CORPS.

Col. F. W. Forsdyke is placed on retired pay. Dated April 25.

Brev.-Col. E. R. C. Butler, A.V.C., to be Col., *vice* F. W. Forsdyke. Dated April 25.

April 28.

TERRITORIAL FORCE. ARMY VETERINARY CORPS.

Lieut. A. W. Reid to be Capt. Dated March 12.

F. J. Moon to be Lieut. Dated March 20.

Personal.

TRENCHARD—WARE.—On 28th April, at St. Mary's Church, Bridgwater, by the Rev. W. E. Catlow, Hugh, eldest son of Hugh Trenchard, J.P., of Enfield, to Dorothy, youngest daughter of the late Edwin Ware, M.R.C.V.S., Consulting Veterinary Surgeon to the County of Somerset, and Mrs. Ware of Bridgwater.

Mr. DAVID ROWBOTTOM SOWERBY, M.R.C.V.S., of 105 Anlaby Road, Hull, for many years an Inspector, under the Board of Trade, of the Exportation of Horses, left estate of the value of £9,815.

PRESENTATION TO MR. JOHN BROWN, F.R.C.V.S., INVERGORDON.

Over a hundred people, representative of all classes in the agricultural community, gathered in the Royal Hotel, Tain, on Friday, April 3, when the presentation was made to Mr. John Brown, F.R.C.V.S., Invergordon, who for over 20 years now has been the untiring servant of the agricultural community of Ross-shire and Sutherlandshire and particularly of Easter Ross.

Recently a committee was formed to arrange for a presentation to Mr. Brown. Mr. W. G. Paterson undertook the duties of convener, and Mr. A. B. Davidson, Kincraig, the secretaryship, with the result that a handsome sum of money was collected, and the promoters were able to give Mr. Brown a motor car, which in the circumstances is the most suitable gift that could have been provided.

Mr. Paterson, in making the presentation, said he thought they could congratulate themselves on the successful termination of the work which they undertook. When the project was first started there was a large and influential attendance, and from that moment the promoters felt that they would have no difficulty in carrying out what they wanted. He was glad to say that they had been more than able to realise their aims: they were now able to present him with a car

and it would be the most useful gift they could give him. Mr. Brown had been in the district for over 20 years. He came as a young man, fresh from college, and newly off the irons. He had the good sense to choose Invergordon, and there he had abided. After a little time they found he knew his work very well, and they appreciated his abilities. During the past twenty years their appreciation had increased yearly, and they had profited by his experience. But experience was not enough in his profession. The profession was rising daily, and Mr. Brown had certainly kept himself up-to-date. He thought the honour done that day to Mr. Brown was just what was wanted to show him how the farmers of Easter and Wester Ross appreciated him. In conclusion Mr. Paterson said—In the name of the subscribers I have pleasure in presenting you with this motor car, and I am sure it is the wish of all that you will enjoy good health, and that it will be a comfort to you in the wide district over which you operate. (Loud applause).

Mr. Paterson said he had another pleasent duty to perform—to present to Mrs. Brown a silver service. They had hoped from the beginning that they would be able to associate Mrs. Brown with the presentation, she had helped Mr. Brown very much in his work. They were delighted that they had been able to give her those things. They wished Mr. and Mrs. Brown long life and prosperity. (Loud applause).

The inscription bore the following—"Presented along with a motor car to John Brown, F.R.C.V.S., and silver tea service, entree dishes, and set of cruets to Mrs. Brown, in recognition and appreciation of the services rendered to the agricultural community of Ross and Sutherland."

Mr. Brown, who was received with applause, said :—Mr. Chairman and gentlemen, I feel I have no words to adequately express my feelings of gratitude for the very kind words you have said about me, and for the very handsome and useful gift you have presented to me. Ever since I came to reside in Ross-shire I have experienced the greatest kindness, and to-day this magnificent motor car is the outward and visible sign that I still retain your esteem, and that my humble efforts as a veterinary practitioner are appreciated. I feel that the agriculturists of Ross and Sutherland have put me under a debt of gratitude which can never be adequately repaid, but for the rest of my life it will always be my endeavour to uphold the honour of the veterinary profession, and if in my power to do more thorough service to you who honour me with your patronage. Reference has been made as to my qualifications, but, gentlemen, that was necessary in a district where farming is a science. The agriculturists of Ross and Sutherland have a knowledge of stock in health and disease that is not surpassed by any community in Britain. I must say that any success I may have had has been due to the wise and intelligent view which my clients invariably take of the ailments of the animals I am called upon to treat. I cannot very well thank you, gentlemen, without also thanking your good ladies for the many kindnesses and hospitality they have shown to me in the daily routine of my practice, the old proverb is true in my experience "that nowhere beats the heart so kindly as in the Highlands." Gentlemen, there is another thing that has made my work easier and that is the assistance rendered by the attendants of your stock. I must give the grieves, cattlemen, and ploughmen the greatest credit for their attention to a sick animal, and to carrying out instructions given. I have never found it otherwise than that these men have done everything in their power to assist in cases of illness, and do all they can to procure a recovery. You will, I know, accept this extremely imperfect acknowledgment of your kindness in the spirit in which it is tendered, being assured that I am unable to do justice to such an event in vocal utterance. But, Mr. Chairman and gentlemen, you have laid upon me to-day another duty which I dare not evade. You have asked my wife to participate in your generosity in presenting her with this fine collection of silver. This, I can assure you, adds immeasurably to the pleasure which I feel on this occasion. Although she is not an expert in veterinary science, it is her lot to facilitate my work in many ways. To her I am indebted for all the comforts which take the rough edges off untimely hours, inclement weather, and irregular meals, and I am deeply grateful that you should honour her as well as myself. I can assure you that no one rejoices as much as Mrs. Brown at the distinction conferred on me to-day, and she desires me to express her heartfelt gratitude for the splendid presents you have asked me to accept on her behalf. (Loud applause.)

Mr. J. A. Forsyth, Balinaraid, said there had been a number of collectors working over a wide district, and those who had been called upon to give their mite could testify to the tactful manner in which they had been approached. (Applause.)

Mr. C. Mundell returned thanks on behalf of the collectors. Personally speaking, he had never had a more pleasant or more easy task. From the smallest crofter to the largest farmer he had no difficulty in getting contributions. He had only to ask to receive. (Applause.)

Mr. D. R. Cran, Ardmore, said this presentation had been an entire success, and that had been due in a large measure to Mr. Paterson, their chairman. He called for a hearty vote of thanks to Mr. Paterson. (Applause.)

Mr. Paterson returned thanks, and said that he particularly regretted the absence of Major Cuthbert, who had done so much towards the success of the movement. —*Ross-shire Journal.*

OBITUARY

ROBERT WILSON, M.R.C.V.S., China Street, Lancaster. Graduated, Lond : March, 1887.

Mr. Wilson died on April 21st, at Birmingham, from lobar pneumonia. Aged 50 years.

BURNDRED.—On April 23rd, at 148 Revidge Road, Blackburn, May Louisa, the dearly-loved wife of Ernest J. Burndred, M.R.C.V.S.

The late Mr. Henry Howse, M.R.C.V.S., of Lincoln.

Mr. Howse had reached the ripe old age of 80. Fifty years of that time he had spent in practice in Lincoln. He had an extensive high-class practice, his clients included some of the best known owners of horses in the country. He was a man of strong personality and could be trusted by his professional brethren ; his skill and judgment were well known and were always in demand, not only among the rich, but among the poor, to whom no one acted with more generosity and kindliness than Mr. Howse. Many and many a time he has attended horses belonging to small traders and others, knowing full well that he could never hope for anything like the usual payments, but he never refused to attend an animal in distress. Coming from London early in life, Mr. Howse spent some little time with his father at Norton Hall, and then came to Lincoln 50 years ago. His work for Lincoln Corporation was well known. He held the post of Veterinary Inspector for many years, and recently he was appointed consulting inspector to the same body. He was also Inspector for the Divisions of Lindsey and Kesteven some considerable time, and his work took him far afield. He leaves a large circle of friends to mourn his loss.

A memorial service was held at St. Peter-at-Arches Church, Lincoln, which the deceased attended for many years.